

What is claimed is:

1. A method of accessing data memory, comprising:

writing data to a first memory location and to a second memory location in response to a request to write data to a memory address that corresponds to both

5 locations, wherein the first and second memory locations are mirrored;

in response to a request to read data from the memory address, reading data from the first memory location or the second memory location based on load balancing; and

accessing data from the second memory location in response to a request to access data at the memory address when memory hardware corresponding to the first memory

10 location has failed.

2. A method, according to claim 1, wherein accessing the data memory includes requesting access to a specific one of the first and second memory locations.

3. A method, according to claim 1, wherein the memory address contains a portion that is common to both the first memory location and the second memory location.

15 4. A method, according to claim 1, wherein hardware coupled to the memory causes data written using the memory address to be automatically written to the first memory location and the second memory location.

5. A method, according to claim 1, wherein software causes data written using the memory address to be written to the first memory location and the second memory location using a first set of commands that writes the data to the first memory location and a second set of commands that writes to the second memory location.

5 6. A method, according to claim 1, wherein load balancing includes toggling at least one variable between a first state and a second state and wherein data is read from the first location when the at least one variable is in the first state and from the second location when the at least one variable is in the second state.

7. A method, according to claim 1, further comprising:

10 coupling a director board to the memory; and
 coupling one of: a host, a disk, and a communications link to the director board.

8. A method, according to claim 7, further comprising:

 transferring data between the memory and the director board.

9. A method, according to claim 7, further comprising:

15 the director board causing data to be transferred between the memory and one of: the host, the disk, and the communication link.

10. Computer software that accesses data memory, comprising:

executable code that writes data to a first memory location and to a second memory location in response to a request to write data to a memory address that corresponds to both locations, wherein the first and second memory locations are

5 mirrored;

executable code that reads data from the first memory location or the second memory location based on load balancing in response to a request to read data from the memory address; and

executable code that accesses data from the second memory location in response
10 to a request to access data at the memory address when memory hardware corresponding to the first memory location has failed.

11. Computer software, according to claim 10, further comprising:

executable code that services requests to access to a specific one of the first and second memory locations.

15 12. Computer software, according to claim 10, wherein the memory address contains a portion that is common to both the first memory location and the second memory location.

13. Computer software, according to claim 10, further comprising:

executable code that causes data written using the memory address to be written to the first memory location and the second memory location using a first set of commands that writes the data to the first memory location and a second set of commands that writes to the second memory location.

14. Computer software, according to claim 10, further comprising:

executable code that toggles at least one variable between a first state and a second state wherein data is read from the first location when the at least one variable is in the first state and from the second location when the at least one variable is in the second state.

15. A data storage device, comprising:
- a plurality of disk drives;
 - an internal volatile memory; and
 - a plurality of directors coupled to the memory, wherein some of the directors are
- 5 coupled to the disk drives and some of the directors allow external access to the data storage device and wherein each of the directors access the memory by writing data to a first memory location and to a second memory location in response to a request to write data to a memory address that corresponds to both locations, wherein the first and second memory locations are mirrored, in response to a request to read data from the memory
- 10 address, the directors read data from the first memory location or the second memory location based on load balancing, and the directors access data from the second memory location in response to a request to access data at the memory address when memory hardware corresponding to the first memory location has failed.
16. A data storage device, according to claim 15, wherein the directors request access to a
- 15 specific one of the first and second memory locations.
17. A data storage device, according to claim 15, wherein the memory address contains a portion that is common to both the first memory location and the second memory location.

18. A data storage device, according to claim 15, wherein hardware coupled to the memory causes data written using the memory address to be automatically written to the first memory location and the second memory location.
19. A data storage device, according to claim 15, wherein software causes data written
5 using the memory address to be written to the first memory location and the second memory location using a first set of commands that writes the data to the first memory location and a second set of commands that writes to the second memory location.
20. A data storage device, according to claim 15, wherein load balancing includes
10 toggling at least one variable between a first state and a second state and wherein data is read from the first location when the at least one variable is in the first state and from the second location when the at least one variable is in the second state.